AUTOMATIC STOP ORDERS

ORAL ANTICOAGULANTS—	AFTER 24 HOURS
ALBUMIN—	AFTER 24 HOURS
LARGE VOLUME INTRAVENOUS—	AFTER 24 HOURS
INJECTABLE ANTICOAGULANTS (SC)—	AFTER 5 DAYS
CONTROLLED SUBSTANCES—	AFTER 5 DAYS
CORTISONE PRODUCTS—	AFTER 5 DAYS

ALLERGIES:

CARDIOLOGY WEIGHT-BASED HEPARIN NOMOGRAM ORDER

(Acute Coronary Syndrome, or LESS AGGRESSIVE anticoagulation)

♦ Total body weight in kg (Kg = Lbs ÷ 2.2) = _____ Kg (use total body weight obtained at initiation of heparin and for the duration of heparin)

1. **INITIAL BOLUS** ☐ **60 Units/kg** IV push **(Maximum *initial* bolus dose is 4,000 Units)**
   (Check one) ☐ **NO** Initial Heparin bolus
   ☐ Alternate initial bolus dose = _____ Units/kg X _____kg = _____ Units (round to nearest 100 Units)
   (If this dose is calculated by RN, a 2nd RN must double-check. RN 1= _____ RN 2 (double-check)= _____)
2. **INITIAL INFUSION (Heparin 25,000 Units/D5W 250mL) at 12 Units/kg/h - Maximum *initial* infusion is 1,000 Units/hr**
3. Adjust Heparin infusion rate according to the Nomogram table when PTTs are available
4. Consider oral antiplatelet or oral anticoagulant in patients who may be candidates for these drugs.
5. **NO** concomitant Low Molecular Weight Heparin, Factor Xa Inhibitor (Fondaparinux), or Direct Thrombin Inhibitor (Argatroban)
6. If patient is coagulopathic or INR >2, notify prescriber for possible discontinuation of Heparin.
7. Labs: -Baseline PTT, PT/INR, CBC, platelet
   -CBC with platelet daily X 3 days then every 3 days thereafter.
   -PTT 6 hours after bolus dose and after any dosage adjustment. If PTT < 35 seconds or >100 seconds, notify prescriber, and after dosage adjustment, obtain the next PTT 6 hours later as **STAT** level.
   -When 2 consecutive PTTs are therapeutic, monitor PTT q24h and adjust Heparin infusion according to Nomogram.

**** NOTIFY PRESCRIBER FOR PTT < 35 seconds or > 100 seconds ****

WGT (KG)	BOLUS	INITIAL DRIP	PTT < 35 SEC (Notify MD for PTT <35 SEC)		PTT 35-49 SEC		PTT 50-70 SEC	PTT 71-90 SEC	PTT 91-100 SEC (Notify MD for PTT > 100 SEC)
Round weight down	60 Units/kg	12 Units/kg/h	**REBOLUS** with dose in *units* below (60 Units/kg)	**INCREASE** rate by the *units/h* below (4 Units/kg/h)	**REBOLUS** with dose in *units* below (30 Units/kg)	**INCREASE** rate by the *units/h* below (2 Units/kg/h)	**THERAPEUTIC RANGES**	**DECREASE** rate by the *units/h* below (2 Units/kg/h)	**HOLD HEPARIN FOR 1 HOUR** ** and **DECREASE** rate by the *units/h* below (3 Units/kg/h)
(kg)	(Units)	(Units/h)	(Units)	(Units/h)	(Units)	Units/h		(Units/h)	(Units/h)
40	2,400	480	2,400	200	1,200	100		100	100
45	2,700	540	2,700	200	1,400	100		100	100
50	3,000	600	3,000	200	1,500	100		100	200
55	3,300	660	3,300	200	1,700	100		100	200
60	3,600	720	3,600	200	1,800	100	N	100	200
65	3,900	780	3,900	300	2,000	100	O	100	200
70	4,000	840	4,000	300	2,000	100		100	200
75	4,000	900	4,000	300	2,000	200		200	200
80	4,000	960	4,000	300	2,400	200		200	200
85	4,000	1,000	4,000	300	2,500	200	C	200	300
90	4,000	1,000	4,000	400	2,700	200	H	200	300
95	4,000	1,000	4,000	400	2,800	200	A	200	300
100	4,000	1,000	4,000	400	3,000	200	N	200	300
105	4,000	1,000	4,000	400	3,100	200	G	200	300
110	4,000	1,000	4,000	400	3,300	200	E	200	300
OTHER									

*** * * CALL PRESCRIBER FOR *INITIAL* BOLUS >4,000 units OR *INITIAL* INFUSION >1,000 units/h * * ***

** When heparin is held for 1 hour, repeat PTT 6 hours *after the new rate is started*

♦ May round PTT to the nearest whole number (ie. if PTT is 59.8, round to 60) or rounded down by 0.5 seconds (ie. If PTT is 59.5, round down to 59)

♦ Heparin renewal or dosage changes must be written on the regular physician's order sheet

Physician's signature/Date/Time: _____ MD Nurse's signature/Date/Time: _____

DO NOT WRITE IN THIS AREA

THIS SPACE IS FOR PHARMACY

REV. 12/27/04

PLEASE DO NOT RETURN CHARTS WITH NEW ORDERS TO RACK - FLAG CHART

UNIVERSITY MEDICAL CENTER

PHYSICIANS ORDERS AND TREATMENTS

GUIDELINES FOR USING HEPARIN NOMOGRAMS

GENERAL GUIDELINES:

1. Heparin order must be written on the physician order and a heparin nomogram order must be completely filled out by physicians or credentialed APN. It must be clear from prescribers as to which nomogram should be used for their patients.
2. Patients with documented HIT (heparin-induced thrombocytopenia) should not receive heparin.
3. **Use TBW (total body weight) obtained at initiation of therapy and use for the duration of therapy** unless otherwise instructed by prescriber.
4. RN will notify prescriber for:
   - ♦ PTT < 35 seconds or >100 seconds for Cardiology Weight-Based Heparin Nomogram.
   - ♦ PTT < 45 seconds or > 100 seconds for Thromboembolic Diseases Weight-Based Heparin Nomogram.
5. Any PTT levels that are questionable (unexpected low or high) or fall out of therapeutic ranges after being therapeutic, must be further investigated and prescribers must be notified. Prescribers may choose to repeat these levels before adjusting dose.
6. When epidural/spinal anesthesia or spinal puncture is employed, patients are at risk of developing an epidural or spinal hematoma which can result in long-term or permanent paralysis. Therefore, avoiding heparin use should be highly considered
7. If patient is coagulopathic with INR >2, RN will notify prescriber for possible discontinuation of Heparin.
8. RN will notify prescribers for any bleeding while on heparin infusion.

NURSING GUIDELINES:

1. Follow the nomogram table to adjust dosages after PTT levels become available in a timely manner.
2. When an alternate bolus dose is calculated by RN, a second RN must double-check this dose. Both nurses must sign their names on the nomogram order.
3. Obtain lab tests as per heparin nomogram order (PT/INR, PTT, CBC, platelet)
4. Obtain PTT 6 hours (up to 8 hours but not before 6 hours) after initiating the nomogram and after any changes in dosages as per heparin nomogram. PTT level obtained prior to 6 hours is not appropriate because steady state level may not yet be achieved. Dosage changes based on levels that were inappropriately drawn may adversely affect further dosing of heparin when using nomogram.
   - ➢ When heparin is held for 1 hour, repeat PTT 6 hours ***after the new rate is started***.
5. When 2 consecutive PTT levels are therapeutic, monitor PTT once daily and adjust dosages as per nomogram.
6. RN may round PTT to the nearest whole number or round down by 0.5 seconds (ie., If PTT is 59.8, may round to 60 or if PTT is 59.5 seconds, may round to 59)
7. Notify prescriber for:
   - ➢ PTT < 35 sec or >100 sec for Cardiology Weight-Based Heparin Nomogram.
   - ➢ PTT < 45 sec or > 100 sec for Thromboembolic Diseases Weight-Based Heparin Nomogram.
   - ➢ After dosage adjustments for the above levels, next PTT ordered 6 hours later must be a **STAT** level.
8. RN must write an order in the physician order sheet for any bolus doses given, any changes in the infusion rate, next PTT level, sign their names and indicate "Per Heparin Nomogram Order" on physician's order sheet.
9. RN must document every bolus dose given (in Units) and every change in the infusion rate (Units/hr or cc/hr) on MAR and flow sheet.
10. RN must ensure timely and appropriate draw of all lab tests ordered in the nomogram.
11. PTT must not be drawn from the line where heparin is infused.

SWITCHING TO WARFARIN:

- ♦ When appropriate and indicated, Warfarin dosages ≤ 5mg can be started on day #1 at the same time with the initiating of Heparin. It is recommended that higher dosages of Warfarin (ie. > 5mg) not be initiated at the same time as heparin, but after at least 6 hours of heparin infusion. In general, the initial dose of Warfarin should not be more than 5mg for most patients.

DURATION OF INFUSION:

- ♦ Duration of heparin is suggested but not limited to the following:
  1. Heparin be overlapped with Warfarin for at least 5 days for the treatment of VTE (Venous Thromboembolic Disease) per ACCP (American College of Chest Physician) guidelines.
  2. For Acute Coronary Syndrome, Heparin may be continued for 2-5 days per ACC (American College of Cardiology) guidelines.
  3. For other uses, Heparin can be discontinued if patient achieves therapeutic INR for at least 2 consecutive days while on therapeutic dose of heparin and warfarin.

CONCOMITANT ANTICOAGULANTS & ANTIPLATELETS:

1. Some patients may be on concurrent antiplatelets (Aspirin, Clopidogrel, Ticlopidine), GP IIbIIIa receptor antagonists (Abciximab, Tirofiban, Eptifibatide) or thrombolytics (Alteplase, Reteplase, Tenecteplase).
2. Patients must NOT be on any concurrent (treatment or prophylatic doses) Low Molecular Weight Heparin (Enoxaparin, Dalteparin), Factor Xa Inhibitor (Fondaparinux), or Direct Thrombin Inhibitor (Argatroban) while on heparin infusion.